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ABSTRACT

The effect of differences in student and faculty learning styles on student evaluation of faculty was studied at the University of Alabama's College of Education. It was assumed that the professor's learning style influenced teaching behavior. In the final week of the spring semester, the Productivity Environmental Preference Survey (PEPS) was administered to 311 students in 20 graduate and upper-level classes. The professor of each class also completed the survey. In addition, students completed the university's regular evaluation form, the NCS Student Survey of Course/Instructor. A significant relationship between learning style and student evaluation of faculty was found. Seven of the 21 PEPS elements significantly contributed to the relationship between learning style and faculty evaluation: light, design, persistence, self-orientation, kinesthetic perceptual preference, and time of day (late morning or afternoon). The element ranked as most important by student and faculty was kinesthetic preferences. Persistence was another highly-rated variable: both students and faculty saw themselves as preferring to work on long-term assignments. The most significant of the variables was desire for light; students and faculty expressed high need for light. Both students and faculty expressed less perference for afternoon learning. (SW)

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Learning Styles: Do They Affect Faculty Evaluation?

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The University of Alabama

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LEARNING STYLES: DO THEY AFFECT FACULTY EVALUATION?

The way students prefer to learn could influence how the students rate their professors. This factor is not often considered in analyzing the results of course evaluations (Scerba, 1979). A study at the University of Alabama found significant correlations between students' ratings of faculty and student and faculty learning styles. The results were not surprising but the investigation raised questions about course/instructor evaluations and teaching behavior.

Reports of previous research have been mixed. Hunter (1980) and Meredith (1981) found no statistically significant correlations linking learning style to instructor/course evaluation. But other researchers obtained results which indicated that a student might unconsciously view the effectiveness of a professor according to the student's preferences for a specific teaching mode (Armstrong, 1981; Brown, 1979; Lavender, 1977; Riechmann, 1979). None of the previous research included use of the learning style instrument administered in the present study. The hypothesis for this study was as follows: The difference in student and faculty learning styles is significantly related to student evaluation of faculty.

Methodology

A random sample of 20 classes in the College of Education at the University of Alabama participated in the study. (See Table 1 for characteristics of the student sample.) In the final week of the Spring semester, the Productivity Environmental Preference

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Survey (PEPS) (Price, Dunn, and Dunn, 1979) was administered to 311 students in 20 graduate and upper level classes. The professor of each class also completed the PEPS. At the same time, the students completed the University's regular evaluation form, the NCS Student Survey of Course/Instructor (NCS) (National Computer Systems, Inc., 1973).

Table 1

Characteristics of Student Sample

Number of Students	311
Sex	
Male	94
Female	207
Missing Data	10
Class	
Undergraduate	183
Graduate	112
Undesignated	16
Grade Point Average	3.14

The PEPS was designed by Price, Dunn, and Dunn (1979) to identify 21 different elements adults prefer in their learning environment. The elements are grouped into the following four areas: Immediate environment (sound, temperature, light, and design); emotionality (motivation, responsibility, persistence, and the need for either structure or flexibility); sociological needs (self-oriented, colleague-oriented, authority-oriented, and/or combined ways); and physical needs (perceptual preferences, time of day, intake, and mobility).

The NCS requires the student to respond on a five-point Likert scale from Very Poor to Very Good and to rate the professor on 27 items. The items include the student's assessment of the professor's knowledge of subject matter, clarity of objectives, conduct of the course, and responsiveness to the students--items typically found on faculty/course evaluations.

Each students's rating of each faculty member was calculated by summing the 27 items on the NCS course evaluation. The difference between the faculty and student rating on each of the 21 PEPS survey items was calculated and used as an independent variable in the regression analysis. These 21 PEPS variables were regressed on the dependent variable, the NCS summated score, to determine if there was a significant relationship between students' evaluation of the faculty and the faculty/student learning styles. Only the variables that made a significant contribution to this relationship were further analyzed.

Findings

The findings of the study confirmed the research hypothesis. As shown in Table 2, the Multiple R of .49 and Multiple R-Square of .24 ($F = 3.79$, $p < .01$) suggest moderate correlation with some practical significance. Seven of the 21 PEPS elements made a significant contribution to the relationship. The elements were from each of the areas listed by Price, Dunn, and Dunn (1979); two of the areas (environment and physical needs) each had more than one significantly correlated item. The seven variables were light, design, persistence, self-oriented, kinesthetic perceptual preference, and time of day (late morning and afternoon).

Table 2

Correlation of Learning Styles and Faculty Evaluation

Regression Analysis

Multiple R	.487
Multiple R Square	.237

Analysis of Variance

	Sum of Squares	DF	Mean Squares	F Ratio	Prob.
Regression	21934.19	21	1044.48	3.79	.00
Residual	70554.11	256	275.60		

Significant Independent Variables

	Std. Reg. Coef.	T Value	Probability
Light	-.200	-2.875	.00
Design	.292	4.363	.00
Persistence	.224	3.127	.00
Self-oriented	-.233	-2.105	.04
Kinesthetic	.286	3.795	.00
Late Morning	-.267	-2.798	.00
Afternoon	-.269	-2.711	.00

As shown in Table 3, the element ranked as most important by student and faculty was kinesthetic preferences; 94% of the students (mean = 79.19) and 80% of the faculty (mean = 75.68) gave this variable the maximum rating. Dunn and Dunn (1978) define this element as the need for real life or active experiences. The PEPS Manual (Price et al., 1979) states that a high preference for each element is a score of 60 or more and a low score is 40 or less.

Persistence was another highly rated variable. Both students (71.62) and faculty (68.22) saw themselves as preferring to work on long term assignments. Both groups scored high on the variable of self-oriented learning (student = 67.32, faculty = 68.78). The most significant of the variables was desire for light; students (60.38) and faculty (60.32) expressed high need for light. Moderate preference for late morning learning time was indicated by students (51.12) and faculty (57.79) alike. Both groups expressed less preference for afternoon learning (student = 42.88, faculty = 34.30).

Table 3

Means and Standard Deviation for Student and Faculty and Difference Between Student and Faculty on the Productivity Environmental Preference Survey

Profile Item	Students		Faculty		Difference Between Faculty and Students	
	Mean	SD	Mean	SD	Mean	SD
Light	60.38	7.79	60.32	7.98	.06	11.19
Design	57.69	8.64	59.95	7.56	-2.25	11.35
Persistence	71.63	7.49	68.22	6.65	3.41	10.08
Self-oriented	67.32	8.95	68.78	9.06	-1.46	12.96
Kinesthetic	79.19	5.50	75.68	10.48	3.51	11.28
Late Morning	51.12	13.19	57.79	7.53	-6.67	14.94
Afternoon	42.88	10.54	34.30	6.93	8.59	12.48

Discussion

This study found a significant relationship between learning style and student evaluation of faculty. Seven variables contributed significantly. For the purpose of this study, it was assumed that the professor's learning style influenced teaching behavior. This assumption was based on Dunn and Dunn's (1979) suggestion that a professor's teaching behavior was influenced by the professor's learning style.

> There is a commonly ascribed-to-belief that, 'Teachers teach the way they were taught.' A more accurate statement would be, 'Teachers teach the way they learned.' In our investigations into individual teaching styles, we found that instructors believe that the way they learn is the 'easy' or 'right' way, and that they therefore direct their students . . . toward mastering knowledge in much the same manner (p. 241).

Dunn and Dunn (1979) recommended that teachers modify their usual styles to include the elements needed by their students.

The PEPS profile of learning style elements is one of many approaches to the factors that contribute to a student's preferred mode of learning. "The sheer diversity of work on learning and teaching styles presents formidable problems for a teacher. A teacher must first decide which dimension of learner style to consider important" (Doyle and Rutherford, 1984, p. 21). The practicality of accomodating in each classroom the number of identified factors that contribute to the individual student's learning style is questionable. As suggested by this study, some of the factors may be beyond the control of the professor.

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